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REMARKS

In the Non-Final Office Action dated September 17, 2004, Examiner Patel rejected pending claims 16-29 on various grounds. The Applicant responds to each objection and rejection as subsequently recited herein, and respectfully requests reconsideration and further examination of the present application under 37 CFR § 1.114:

- A. Examiner Patel rejected claims 18-20, 26, 27 and 29 under 35 U.S.C. §112, ¶2 as being indefinite

The Applicant has amended claims 18-20 and 29 herein to obviate this indefiniteness rejection of claims 18-20, 26, 27 and 29. Withdrawal of the rejection of claims 18-20, 26, 27 and 29 under 35 U.S.C. §112, ¶2 as being indefinite is therefore respectfully requested.

- B. Examiner Patel rejected claim 16, 17 and 28 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,067,166 to *Ito*

The Applicant has thoroughly considered Examiner Patel's remarks concerning the patentability of claims 16, 17 and 28 over *Ito*. The Applicant has also thoroughly re-read *Ito*. To warrant this anticipation rejection of claims 16, 17 and 28, *Ito* must show each and every limitation of independent claims 16 and 28 in as complete detail as in contained in independent claims 16 and 28. See MPEP §2131. The Applicant respectfully traverses this anticipation rejection of claims 16 and 28 for a couple of reasons.

First, a careful review of *Ito* reveals that *Ito* is unrelated to a threadlike structure in an image as evidenced by the failure of *Ito* to use the terms "image" or "imaging" therein. Thus, *Ito* does not teach or suggest "back propagating the front along a first track starting at the end point through the children and the fathers of the first track until the start point is reached whereby the points of the path following the threadlike structure in the image are extracted" as recited in independent claim 16,

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and "means for acquiring image data from an original image representing a threadlike structure on a background, the image data including digital intensity levels and pixel coordinates in the original image", "means for constructing an image of potentials in which each pixel of the original image is associated to a potential forming a grid of points", and "means for setting end points within the image of potentials, the end points including a start point and an end point between which a path following the threadlike structure is to be determined" as recited in independent claim 28.

Second, *Ito* fails to disclose and teaches away from "marching a front of points forward starting at a predetermined start point until a predetermined end point of the grid is reached to thereby identify at least one track formed by succeeding points denoted fathers and corresponding children of the threadlike structure" as recited in independent claim 16, and "means for setting end points within the image of potentials, the end points including a start point and an end point between which a path following the threadlike structure is to be determined" as recited in independent claim 28.

Specifically, *Ito* teaches two distinct phases for matching templates. The first phase implements a method for forming a tree-structured dictionary, and the second phase implements a method for calculating a dynamic programming matching using the dictionary. *See, Ito* at column 6, lines 52-55.

In the tree-structured dictionary formation phase, *Ito* fails to teach a predetermined end point for any type of forward propagation from a predetermined start point, because the premise in forming the tree-structured dictionary is the end points of tree branches are not known until the tree-structured dictionary is completely formed. *See, Ito* at column 6, line 56 to column 7, line 43.

In the dynamic programming matching phase, *Ito* teaches a path of tree branch is known prior to front marching along the tree branch to determine a length of the tree branch. For example, as shown in FIG. 2 of *Ito*, a tree branch "afhik", a tree branch "abed" and a tree branch "apq" are known prior to front marching along these tree branches to determine the length of these tree branches to ensure the whole tree is searched during this phase. *See, Ito* at column 7, line 43 to column 9, line 27. Thus, the tree branches are not identified as a function of the front marching from a start

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point to an end point as required by independent claims 16 and 28, because the tree branches are known prior to the front marching.

A careful review of *Ito* in the context of Examiner Patel's rationale for rejecting claims 16 and 28 in view of *Ito* reveals that Examiner Patel is improperly combining the tree-dictionary formation phase of *Ito* and the dynamic programming matching phase of *Ito* in a manner inconsistent with the teachings of *Ito*.

Withdrawal of the rejection of independent claims 16 and 28 under 35 U.S.C. §102(b) as being anticipated by *Ito* is therefore respectfully requested.

Claim 17 depends from independent claim 16. Therefore, dependent claim 17 includes all of the elements and limitations of independent claim 16. It is therefore respectfully submitted by the Applicant that dependent claim 17 is allowable over *Ito* for at least the same reasons as set forth herein with respect to independent claim 16 being allowable over *Ito*. Therefore, withdrawal of the rejection of dependent claim 17 under 35 U.S.C. §102(b) as being anticipated by *Ito* is respectfully requested.

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SUMMARY

The Applicant respectfully submits that claims 16-29 as listed herein fully satisfy the requirements of 35 U.S.C. §§ 102, 103 and 112. In view of the foregoing, favorable consideration and early passage to issue of the present application is respectfully requested. If any points remain in issue that may best be resolved through a personal or telephonic interview, Examiner Patel is respectfully requested to contact the undersigned at the telephone number listed below.

Dated: December 17, 2004

Respectfully submitted,
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